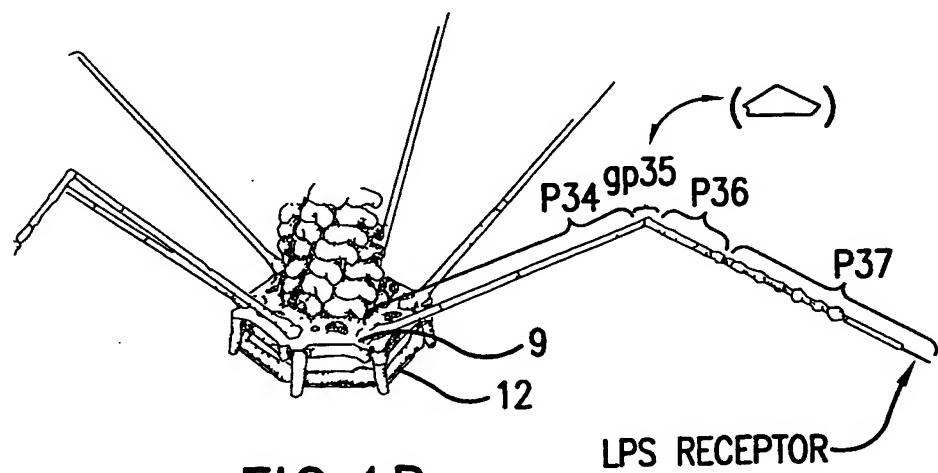
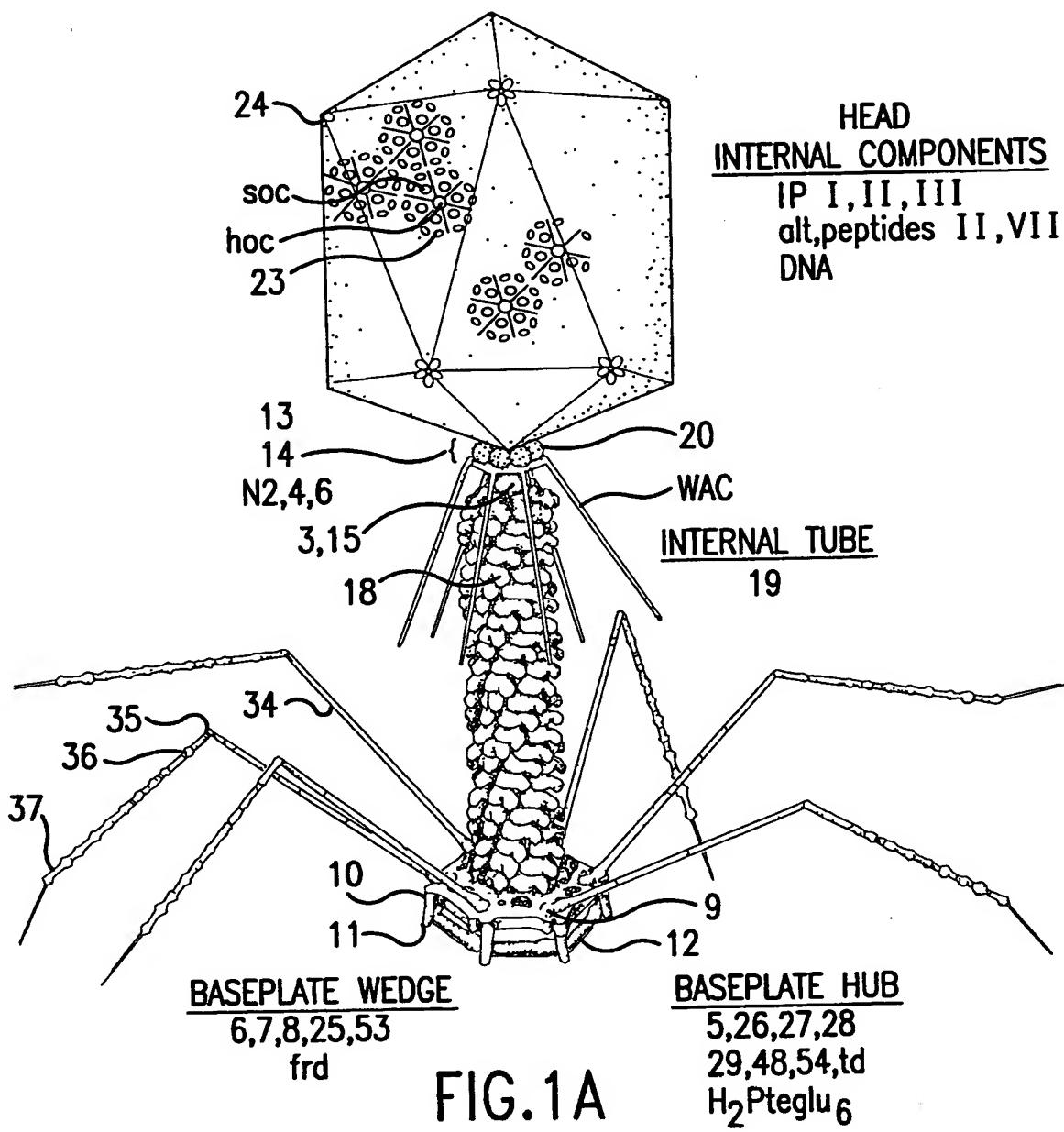


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1 ATG GAA AAA TTT ATG GCC GAG TTT GGA CAA GGA TAT GTC CAA ACG CCA TTT TTA TCG GAA 60
 1 M E K F M A E F G Q G Y V Q T P F L S E 20

 61 AGT AAT TCA GTA AGA TAT AAA ATA AGT ATA GCG CGT TCT TGC CCG CTT ACA GCA CGA 120
 21 S N S V R Y K I S I A G S C P L S T A G 40

 121 CCA TCA TAT GTT AAA TTT CAG GAT AAT CCT GCA GGA AGT CAA ACA TTT AGC GCA GGC CTC 180
 41 P S Y V K F Q D N P V G S Q T F S A G L 60

 181 CAT TTA AGA GTT TTT GAC CCT TCC ACC GGA GCA TTA GTT GAT AGT AAG TCA TAT GCC TTT 240
 61 H L R V F D P S T G A L V D S K S Y A F 80

 241 TCG ACT TCA AAT GAT ACT ACA TCA GCT GCT GCT TTT GTT AGT TTC ATG AAT TCT TTG ACG AAT 300
 81 S T S N D T T S A A F V S F M N S L T N 100

 301 AAT CGA ATT GTT GCT AIA TTA ACT ACT GCA AAG GTT AAT TTT CCT CCT GAA GIA GIA TCT 360
 101 N R I V A I L T S G K V N F P P E V V S 120

 361 TGG TTA AGA ACC GCC GGA ACG TCT GCC TTT CCA TCT GAT TCT ATA TTG TCA AGA TTT GAC 420
 121 W L R T A G T S A F P S D S I L S R F D 140

 421 GTA TCA TAT GCT TTT TAT ACT TCT TCT AAA AGA GCT ATC GCA TTA GAG CAT GTT AAA 480
 141 V S Y A A F Y T S S K R A I A L E H V K 160

FIG. 2A

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| | |
|--|------------|
| 484 CAA ACT ATT GTC AAC TTT AGA GGT GAA CAG CTA CGT TCA GTC CTA ATG ACT CAT CCA AAG 157 Q S I V N F R G E Q V R S V L M T H P K | 543 176 |
| 544 TCA CAG CTC GTT TTA ATT TTT AGT AAT CGT CTG TCG CAA ATG TAT GTT GCT GAT TAT AGT 177 S Q L V L I F S N R L W Q M Y V A D Y S | 603 196 |
| 604 AGA GAA GCT ATA GTT GTC ACA CCA GCG AAT ACT TAT CAA GAG CAA TCC AAC GAT TTT ATC 197 R E A I V V T P A N T Y Q A Q S N D F I | 663 216 |
| 664 CGT AGA TTT ACT TCT CCT CCA CCA ATT AAT GTC AAA CTT CCA AGA TTT GCT AAT CAT 217 V R F T S A A P I N V K L P R F A N H | 723 236 |
| 724 GGC CAT ATT ATT AAT TTC GTC GAT TTA GAT AAA CTC ATT CCG CTT TAT CAT ACA ATT GTT 237 G D I N F V D L D K L N P L Y H T I V | 783 256 |
| 784 ACT ACA TAC GAT GAA ACG ACT TCA GTC CAA GAA GTT GGA ACT CAT TCC ATT GAA GGC CGT 257 T T Y D E T T S V Q E V G T H S I F G R | 843 296 |
| 844 ACA TCG ATT GAC GGT TTC TTG ATG TTT GAT GAT GAG AAA TTA TGG AGA CTG TTT GAC 277 T S I D G F L M F D D N E K L W R L F D | 903 296 |
| 904 GGG GAT AGT AAA GCG CGT TTA CGT ATC ATA ACG ACT AAT TCA AAC ATT CGT CCA AAT GAA 297 G D S K A R L R I T N S N I R P N E | 963 316 |

FIG. 3B

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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----|-----|-----|-----|-----|-----|-----|---|---|-----|
| 481 | C | T | G | A | G | T | A | A | T | A | G | A | T | T | A | G | T | A | T | T | T | G | T | T | G | A | T | 540 |
| 161 | L | S | N | R | K | S | T | D | D | Y | Q | T | I | L | D | V | V | F | D | S | 180 | | | | | | | |
| 541 | T | T | A | G | A | T | G | A | T | C | F | P | R | G | T | Y | E | S | V | E | Q | F | 200 | | | | | |
| 181 | L | E | D | V | G | A | T | G | G | T | N | D | E | I | A | R | L | P | T | S | A | A | I | 200 | | | | |
| 601 | A | T | G | T | C | G | A | C | T | A | A | G | A | T | G | G | A | T | C | G | T | G | T | A | 660 | | | |
| 201 | M | S | A | V | G | G | T | C | G | T | N | D | E | I | A | R | L | P | T | S | A | A | I | 220 | | | | |
| 661 | A | G | T | A | A | T | T | A | A | T | T | C | C | T | G | A | T | G | T | T | A | A | G | T | 720 | | | |
| 221 | S | K | L | S | D | Y | N | L | I | P | G | D | V | L | Y | L | K | A | Q | L | 240 | | | | | | | |
| 721 | T | A | T | G | C | T | G | T | C | T | G | A | C | A | A | T | A | T | C | G | T | T | T | A | 780 | | | |
| 241 | Y | A | D | A | D | L | A | L | G | T | N | I | S | I | R | F | Y | N | 260 | | | | | | | | | |
| 781 | G | C | A | T | C | T | G | A | C | A | G | T | T | A | C | G | G | C | A | T | C | G | G | 840 | | | | |
| 261 | A | S | N | G | Y | I | S | S | T | Q | A | E | F | T | G | Q | A | G | S | W | 280 | | | | | | | |
| 841 | G | A | A | T | A | A | G | A | T | T | G | T | T | A | C | G | T | T | A | T | C | G | A | 900 | | | | |
| 281 | E | L | K | E | D | Y | V | V | P | E | N | A | V | G | F | T | I | Y | A | 300 | | | | | | | | |
| 901 | C | A | G | A | T | G | C | A | G | G | G | M | R | N | L | S | F | S | E | V | S | 320 | | | | | | |
| 301 | Q | R | T | A | Q | A | G | Q | A | G | G | G | M | R | N | L | S | F | S | E | V | S | 320 | | | | | |

FIG. 2B

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961 AGA AAT GGC GGC ATT TCG AAA CCT GCT GAA TTT GGC GTC AAT GGT ATT CGT GTT AAT TAT 1020
321 R N G C I S K P A E F V N G I R V N Y 340

1021 ATC TGC GAA TCC GCT TCA CCC CCG GAT ATA ATG GCA CTT CCT ACG CAA GCA TCG TCT AAA 1080
341 I C E S A S P P D I M V L P T Q A S S K 360

1081 ACT GCT AAA GTG TTT GGG CAA GAA TTT AGA GAA GTT TAA 1119
361 T G K V F G Q E F R E V * 373

FIG. 2C

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1 TAGGAGCCGGAGA ATG GCC GAG ATT AAA AGA GAA TTC AGA GCA GAT GGT CTG GAC GCA 63
 M A E I K R E F R A E D G L D A 16
 64 GGT GAT AAA ATA ATC AAC GTA GCT TTA GCT GAT CGT ACC GTC GGA ACT GAC GGT GTT 123
 17 G C D K I N V A L A D R T V G T D G V 36
 124 AAC GTT GAT TAC TTA ATT CAA GAA AAC ACA GTT CAA CAG TAT GAT CCA ACT CGT GCA TAT 183
 37 N V D Y L I Q E N T V Q Q Y D P T R G Y 56
 184 TTA AAA GAT TTT GIA ATC ATT TAT GAT AAC CGC TTT TGG GCT GCT ATA AAT GAT ATT CCA 243
 57 L K D F V I Y D N R F W A A I N D I P 76
 244 AAA CCA GCA GGA GCT TTT AAT AGC GGA CGC TGG AGA GCA TTA CGT ACC GAT CCT AAC TGG 303
 77 K P A G A F N S G R W R A L R T D A N W 96
 304 ATT ACG GTT TCA TCT GGT TCA TAT CAA TTA AAA TCT GGT GAA GCA ATT TCG GTT AAC ACC 363
 97 I T V S S G S Y Q L K S G E A I S V N T 116
 364 GCA GCT GGA AAT GAC ATC ACG TTT ACT TTA CCA TCT TCT CCA ATT GAT GGT GAT ACT ATC 423
 117 A G N D I T F T L P S S P I D G D T I 136
 424 GTT CTC CAA GAT ATT GGA GGA AAA CCT GGA GTT AAC GAA GTT TTA ATT GTC GCT CCA GTC 483
 137 V L Q D I G G K P G V N Q V L I V A P V 156

FIG. 3A

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964 GAA GTT ATG GTA TTT CGT CGC AAT AAC GGA ACA ACT CAA ACA ATT GAG CTT AAG CTT CCA 1023
317 E V M F G A N N G T T Q T I E L K L P 336

1024 ACT AAT ATT TCT GTT GCT GAT ACT GTT AAA ATT TCC ATG AAT TAC ATG AGA AAA GGA CAA 1083
337 T N I S V G D T V K I S M N Y M R K G Q 356

1084 ACA GTT AAA ATC AAA GCT GCT GAT GAA GAT AAA ATT GCT TCT TCA GTT CAA TTG CTG CAA 1143
357 T V K I K A A D E D K I A S S V Q L L Q 376

1144 TTC CCA AAA CCC TCA GAA TAT CCA CCT GAA GCT GAA TGG GTT ACA GTT CAA GAA TTA GTT 1203
377 F P K R S E Y P P E A E W V T V Q E L V 396

1204 TTT AAC GAT GAA ACT AAT TAT GTT CCA GTT TTG GAG CTT GCT TAC ATA GAA GAT TCT GAT 1263
397 F N D E T N Y V P V L E L A Y I E D S D 416

1264 GGA AAA TAT TGG GTT GTA CAG CAA AAC GTT CCA ACT GTC GAA AGA GTC GAT TCT TTA AAT 1323
417 G K Y W V V Q Q N V P T V E R V D S L N 436

1324 GAT TCT ACT AGA GCA AGA TTA GGC GTC ATT GCT TTA GCT ACA CAA GCT CAA GCT AAT GTC 1383
437 D S T R A R L G V I A L A T Q A Q A N V 456

1384 GAT TTA GAA AAT TCT CCA CAA AAA GAA TTA GCA ATT ACT CCA GAA ACG TTA GCT AAT CGT 1443
457 D L E N S P Q K E L A I T P E T L A N R 476

FIG. 3C

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| | |
|--|------|
| 1444 ACT GCT ACA GAA ACT CGC AGA GGT ATT GCA AGA ATA GCA ACT ACT GCT CAA GTG AAT CAG | 1503 |
| 477 T A T E T R R G I A R I A T T A Q V N Q | 496 |
| 1504 AAC ACC ACA TTC TCT TTT GCT GAT ATT ATC ATC ACT CCT AAA AAG CTG AAT GAA AGA | 1563 |
| 497 N T T F S F A D D I I T P K K L N E R | 516 |
| 1564 ACT GCT ACA GAA ACT CGT AGA CGT GTC GCA GAA ATT GCT ACG CAG CAA GAA ACT AAT GCA | 1623 |
| 517 T A T E T R R G V A E I A T Q Q E T N A | 536 |
| 1624 CGA ACC GAT GAT ACT ACA ATC ATC ACT CCT AAA AAG CTT CAA GCT CGT CAA GGT TCT GAA | 1683 |
| 537 G T D D T T I T P K K L Q A R Q G S E | 556 |
| 1744 CAA TTA AAT GGT ACG AAT GTT TAT AAT AAA AAC ACT GAT AAT TTA GTT TCA CCT AAA | 1803 |
| 577 E L N G T N V Y N K N T D N L V V S P K | 596 |
| 1804 GCT TTG GAT CAG TAT AAA GCT ACT CCA ACA CAG CAA GGT GCA GTA ATT TTA GCA GTT GAA | 1863 |
| 597 A L D Q Y K A T P T Q Q G A V I L A V E | 616 |
| 1864 AGT GAA GTC ATT GCT GCA CAA AGT CAG CAA GGA TGG GCA AAT GCT GTT GTC ACG CCA GAA | 1923 |
| 617 S E V I A G Q S Q Q G W A N A V V T P E | 636 |
| 1924 ACG TTA CAT AAA AAG ACA TCA ACT GAT GCA AGA ATT GGT TTA ATT GAA ATT GCT ACG CAA | 1983 |
| 637 T H K T S T D G R I G L I E I A T Q | 656 |

FIG. 3D

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|------|
| 1984 | AGT | GAA | GTT | AAT | ACA | CGA | ACT | GAT | TAT | ACT | CGT | GCA | GTC | ACT | CCT | AAA | ACT | TTA | AAT | GAC | 2043 |
| 657 | S | E | V | N | T | G | T | D | Y | T | R | A | V | T | P | K | T | L | N | D | 676 |
| 2044 | CGT | AGA | GCA | ACT | GAA | AGT | TTA | AGT | GGT | ATA | GCT | GAA | ATT | GCT | ACA | CAA | GTT | GAA | TTC | GAC | 2103 |
| 677 | R | R | A | T | E | S | L | S | G | I | A | E | I | A | T | Q | V | E | F | D | 696 |
| 2104 | GCA | GGC | GTC | GAC | GAT | ACT | CGT | ATC | TCT | ACA | CCA | TTA | AAA | ATT | AAA | ACC | AGA | TTT | AAT | AGT | 2163 |
| 697 | A | G | V | D | D | T | R | I | S | T | P | L | K | I | K | T | R | F | N | S | 716 |
| 2164 | ACT | GAT | CGT | ACT | TCT | GTT | GCT | CIA | TCT | GGA | TTA | GAA | TCA | GGA | ACT | CTC | TGG | GAC | 2223 | | |
| 717 | T | D | R | T | S | V | V | A | L | S | G | L | V | E | S | G | T | L | W | D | 736 |
| 2224 | CAT | TAT | ACA | CTT | AAT | CTT | GAA | GCA | AAT | GAG | ACA | CAA | CGT | ACA | CTT | CGT | GTA | GCT | 2283 | | |
| 737 | H | Y | T | L | N | I | L | E | A | N | E | T | Q | R | G | T | L | R | V | A | 756 |
| 2284 | ACG | CAG | GTC | GAA | GCT | GCT | GGG | GGG | ACA | TTA | GAT | AAT | GTT | TTA | ATA | ACT | CCT | AAA | AAG | CTT | 2343 |
| 757 | T | Q | V | E | A | A | A | G | T | L | D | N | V | L | I | T | P | K | K | L | 776 |
| 2344 | TIA | GGT | ACT | AAA | TCT | ACT | GAA | GCG | CAA | GAG | GGT | GTT | ATT | AAA | GTT | GCA | ACT | CAG | TCT | GAA | 2403 |
| 777 | L | G | T | K | S | T | E | A | Q | E | G | V | I | K | V | A | T | Q | S | E | 796 |
| 2404 | ACT | GIG | ACT | GGA | ACG | TCA | GCA | AAT | ACT | GCT | GIA | TCT | CCA | AAA | AAT | TTA | AAA | TGG | ATT | GCG | 2463 |
| 797 | T | V | T | G | T | S | A | N | T | A | V | S | P | K | N | L | K | W | I | A | 816 |

FIG. 3E

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2464 CAG AGT GAA CCT ACT TGG GCA GCT ACT ACT GCA ATA AGA GGT TTT GTT AAA ACT TCA TCT 817 Q S E P T W A A T T A I R G F V K T S S 836 | 2524 GGT TCA ATT ACA TTC GTT GGT AAT GAT ACA GTC GGT TCI ACC CAA GAT TTA GAA CTG TAT TAT 837 G S I T F V G N D T V G S T Q D L E L Y 856 | 2584 GAG AAA AAT AGC TAT GCG GIA TCA CCA TAT GAA TTA AAC CGT GTA TTA GCA AAT TAT TIG 857 E K N S Y A V S P Y E L N R V L A N Y L 876 | 2644 CCA CTA AAA GCA AAA GCT GCT GAT ACA AAT TTA TTG GAT CGT CTA GAT TCA TCT CAG TTC 877 P L K A K A A D T N L L D G L D S S Q F 896 | 2704 ATT CGT AGG CAT ATT GCA CAG ACC GTT AAT GGT TCA CTA ACC TTA ACC CAA CAA ACG ATT 897 I R R D I A Q T V N G S L T L T Q Q T N 916 | 2764 CTG AGT GCC CCT CTT GTC TCA TCT AGT ACT GGT GAA TTT GGT TCA TTG GCC GCT AAT 917 L S A P L V S S T G E F G G S L A A N 936 | 2824 AGA ACA TTT ACC ATC CGT AAT ACA GGA CCC CGC ACT AGT ATC GTT TIC GAA AAA GGT CCT 937 R T F T I R N T G A P T S I V F E K G P 956 | 2884 GCA TCC GGG GCA AAT CCT GCA CAG TCA ATG AGT ATT CGT GTA TGG GGT AAC CAA TTT GCC 957 A S G C A N P A Q S M S I R V W G N Q F G 976 |
|---|---|---|---|---|---|---|---|

FIG. 3F

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 2944 | GGC | GGT | AGT | CAT | ACG | ACC | CGT | TGG | ACA | GTC | TTT | GAA | GTC | GGC | GAT | GAC | ACA | TCT | CAT | CAC | 3003 |
| 977 | G | S | D | T | R | S | T | V | F | E | V | G | D | D | T | S | H | H | H | 996 | |
| 3004 | TTT | TAT | TCT | CAA | CGT | AAT | AAA | GAC | GGT | AAT | ATA | GCG | TTT | AAC | ATT | AAT | GGT | ACT | GTA | ATG | 3063 |
| 997 | F | Y | S | Q | R | N | K | D | G | N | I | A | F | N | I | N | G | T | V | M | 1016 |
| 3064 | CCA | ATA | AAC | ATT | AAT | GCT | TCC | GGT | TTC | ATG | AAT | GTC | AAT | GGC | ACT | GCA | ACA | TTC | GGT | CCT | 3123 |
| 1017 | P | I | N | I | N | A | S | C | L | M | N | V | N | G | T | A | T | F | G | R | 1036 |
| 3124 | TCA | GTT | ACA | GCC | AAT | GGT | GAA | TTC | ATC | ACG | AAG | TCT | GCA | AAT | GCT | TTT | AGA | GCA | ATA | AAC | 3183 |
| 1037 | S | V | T | A | N | G | E | F | I | S | K | S | A | N | A | F | R | A | I | N | 1056 |
| 3184 | GCT | GAT | TAC | GGA | TTC | TTC | ATT | CGT | AAT | GAT | GCC | TCT | AAT | ACC | TAT | TTT | TTC | CTC | ACT | GCA | 3243 |
| 1037 | G | D | Y | G | F | F | I | R | N | D | A | S | N | T | Y | F | L | L | T | A | 1076 |
| 3244 | GCC | GCT | GAT | CAG | ACT | GCT | GGT | TTT | AAT | GGA | TTA | CGC | CCA | TTA | TTA | ATT | AAT | CAA | TCC | 3303 | |
| 1077 | A | G | D | Q | T | G | G | F | N | G | L | R | P | L | L | I | N | N | Q | S | 1096 |
| 3304 | GCT | CAG | ATT | ACA | ATT | GGT | GAA | GGC | TTA | ATC | ATT | GCC | AAA | GGT | GTT | ACT | ATA | AAT | TCA | GGC | 3363 |
| 1097 | G | Q | I | T | I | G | E | G | L | I | I | A | K | G | V | T | I | N | S | G | 1116 |
| 3364 | GCT | TTA | ACT | GTT | AAC | TGG | AGA | ATT | CGT | TCT | CAG | GGT | ACT | AAA | ACA | TCT | GAT | TTA | TAT | ACC | 3423 |
| 1117 | G | L | T | V | N | S | R | I | R | S | Q | G | T | K | T | S | D | L | Y | T | 1136 |

FIG. 3G

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| | |
|---|-----------|
| 3424 CGT CCG CCA ACA TCT GAT ACT GIA GGA TTC TGG TCA ATC GAT ATT AAT GAT TCA GCC ACT | 3483 |
| 1137 R A P T S D T V G F W S I D I N D S A T | 1156 |
| 3484 TAT AAC CAG TTC CCG GGT TAT TTT AAA ATG GTT GAA AAA ACT AAT GAA GTG ACT GGG CTT | 3543 |
| 1157 Y N Q F P G Y F K M V E K T N E V T G L | 1176 |
| 3544 CCA TAC TTA GAA CGT CGC GAA GAA GTT AAA TCT CCT GGT ACA CTG ACT CAG TTT GGT AAC | 3603 |
| 1177 P Y L E R G E V K S P G T L T Q F G N | 1196 |
| 3604 ACA CTT GAT TCG CTT TAC CAA GAT TGG ATT ACT TAT CCA ACG CCA GAA GCG CGT ACC | 3663 |
| 1197 T L D S L Y Q D W I T Y P T T P E A R T | 1216 |
| 3664 ACT CGC TGG ACA CGT ACA TGG CAG AAA ACC AAA AAC TCT TGG TCA ACT TTT GTT CAG GTA | 3723 |
| 1217 T R W T R T W Q K T K N S W S S F V Q V | 1236 |
| 3724 TTT GAC GGA CGT AAC CCT CCT CAA CCA TCT GAT ATC GGT GCT TTA CCA TCT GAT AAT GCT | 3783 |
| 1237 F D G G N P P Q P S D I G A L P S D N A | 1256 |
| 3784 ACA ATG GGG AAT CTT ACT ATT CGT GAT TTC TTG CGA ATT GGT AAT GTT CGC ATT GTT CCT | 3843 |
| 1257 T W G N L T I R D F L R I G N V R I V P | 1276 |
| 3844 GAC CCA GTG AAT AAA ACG GTT AAA TTT GAA TGG GTT GAA TAA GAGGTATT ATG GAA AAA TTT | 3905 |
| 1277 D P V N K T V K F E W V E * | M E K F 4 |

FIG. 3H

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|------|-----|-------|------|------|--------|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-------|
| 3906 | ATG | CCC | GAG | ATT | TGG | ACA | AGG | AIA | TGT | CCA | AAC | GCC | ATT | TTA | TCG | GAA | AGT | AAT | TCA | GIA | 3965 |
| 5 | M | A | E | I | W | T | R | I | C | P | N | A | I | L | S | E | S | N | S | V | 24 |
| 3966 | AGA | TAT | AAA | ATA | AGT | ATA | GCG | GGT | TCT | TGC | CCG | CTT | TCT | ACA | GCA | GGA | CCA | TCA | TAT | GTT | 4025. |
| 25 | R | Y | K | I | S | I | A | G | S | C | P | L | S | T | A | G | P | S | Y | V | 44 |
| 4026 | AAA | TTT | CAG | GAT | AAT | CCT | GTA | CGA | AGT | CAA | ACA | TTT | AGC | GGC | CCT | TCA | TTT | AAG | AGT | 4085 | |
| 45 | K | F | Q | D | N | P | V | G | S | Q | T | F | R | R | P | S | F | K | S | 64 | |
| 4086 | TTT | TGA | CCCT | TC | ACCGG | ACCG | TTAG | TGATAG | TGATAGTCAT | ATG | CIT | TTT | CGA | CTT | CAA | ATG | ATA | CTA | 4153 | | |
| 65 | F | * | M | L | F | R | L | Q | M | I | L | 9 | | | | | | | | | |
| 4154 | CAT | CAG | CTG | CTT | TTC | TTG | TTA | GTT | TTC | ATG | AAT | TCT | TTG | ACG | AAT | CGA | ATT | GCT | ATA | 4213 | |
| 10 | H | Q | L | L | V | L | V | F | M | N | S | L | T | N | R | I | V | A | I | 29 | |
| 4214 | TTA | ACT | AGT | CGA | AAG | GTT | AAT | TTT | CCT | GAA | GTA | GTA | TCT | TGG | TTA | AGA | ACC | GCC | GCA | 4273 | |
| 30 | L | T | S | G | K | V | N | F | P | P | E | V | V | S | W | L | R | T | A | 49 | |
| 4274 | ACG | TCT | GCC | TTT | CCA | TCT | GAT | TCT | ATA | TTC | TCA | AGA | TTT | GAC | GTA | TCA | TAT | GCT | GCT | TTT | 4333 |
| 50 | T | S | A | F | P | S | D | S | I | L | S | R | F | D | V | S | Y | A | A | F | 69 |
| 4334 | TAT | ACT | TCT | TCT | AAA | AGA | GCT | ATC | GCA | TTA | GAG | CAT | GTT | AAA | CTG | AGT | AAT | AGA | AAA | AGC | 4393 |
| 70 | Y | T | S | S | K | R | A | I | A | L | E | H | V | K | L | S | N | R | K | S | 89 |

FIG. 31

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|
| 4394 | ACA | CAT | GAT | TAT | CAA | ACT | AAT | TTA | GAT | GTT | GTA | TTT | GAC | AGT | TTA | GAA | GAT | GTA | GCA | GCT | 4453 |
| 90 | T | D | Y | Q | T | I | L | D | V | V | F | D | S | L | E | D | V | G | A | 109 | |
| 4454 | ACC | GGG | TTC | CCA | AGA | AGA | ACG | TAT | GAA | AGT | GTT | GAG | CAA | TTC | ATG | TTC | GCA | GTT | GCG | CGA | 4513. |
| 110 | T | G | F | P | R | R | T | Y | E | S | V | E | Q | F | M | S | A | V | G | G | 129 |
| 4514 | ACT | AAT | AAC | GAA | ATT | CCG | AGA | TTG | CCA | ACT | TCA | CCT | GCT | ATA | AGT | AAA | TTA | TCT | GAT | TAT | 4573 |
| 130 | T | N | N | E | I | A | R | L | P | T | S | A | A | I | S | K | L | S | D | Y | 149 |
| 4574 | AAT | TTA | ATT | CCG | GGG | GAT | GTT | CTT | TAT | CTT | AAA | GCT | CAG | TTA | TAT | GCT | GAT | GCT | TTA | 4633 | |
| 150 | N | L | 1 | P | G | D | V | L | Y | L | K | A | Q | L | Y | A | D | A | D | L | 169 |
| 4634 | CTT | GCT | CTT | GGG | ACT | ACA | AAT | ATA | TCT | ATC | CGT | TTT | TAT | ATA | GCA | TCT | AAC | GGA | TAT | ATT | 4693 |
| 170 | L | A | L | G | T | T | N | I | S | I | R | F | Y | N | A | S | N | G | Y | I | 189 |
| 4694 | TCT | TCA | ACA | CAA | GCT | GAA | TTT | ACT | GGG | CAA | GCT | GGG | TCA | TGG | GAA | TTA | AAG | GAA | GAT | TAT | 4753 |
| 190 | S | T | Q | A | E | F | T | G | Q | A | G | S | W | E | L | K | E | D | Y | 209 | |
| 4754 | GTA | GTT | GTT | CCA | GAA | AAC | GCA | GTA | GGG | TTT | ACG | ATA | TAC | GCA | CAG | AGA | ACT | GCA | CAA | GCT | 4813 |
| 210 | V | V | P | E | N | A | V | G | F | T | I | Y | A | Q | R | T | A | Q | A | 229 | |
| 4814 | GGC | CAA | GGT | GGC | ATG | AGA | AAT | TTA | AGC | TTT | TCT | GAA | GTA | TCA | AGA | AAT | GGC | GGC | ATT | TCG | 4873 |
| 230 | G | Q | G | G | M | R | N | L | S | F | S | E | V | S | R | N | G | G | I | S | 249 |

FIG. 3J

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4874 AAA CCT GCT GAA TTT GGC GTC AAT CGT ATT CGT GTC GAA TCC GCT TCA 4933
 250 K P A E F G V N G I R V N Y I C E S A S 269

4934 CCT CGG GAT ATA ATG GTC CTT CCT ACG CAA GCA TCG TCT AAA ACT GTG AAA GTC TTT GGG 4993
 270 P P D I M V L P T Q A S S K T G K V F G 289

4994 CAA GAA TTT AGA GAA GTC TAA ATTGAGGGACCCCTGGGTCCCCCTTCTTATAAAACTATTCAAAATAAA 5066
 290 Q E F R E V *

5067 GGGCATACA ATG GCT GAT TTA AAA GTC CGT TCA ACA ACT GGA GGC TCT GTC ATT TGG CAT 5127
 1 M A D L K V G S T T G G S V I W H 17

5128 CAA CGA AAT TTT CCA TTG AAT CCA GCC GGT GAC GAT GTC CTC TAT AAA TCA TTT AAA ATA 5187
 18 Q G N F P L N P A G D D V L Y K S F K I 37

5188 TAT TCA GAA TAT AAC AAA CCA CAA GCT GAT AAC GAT TTC GTC TCT AAA GCT ATT GGT 5247
 38 Y S E Y N K P Q A A D N D F V S K A N G 57

5248 GGT ACT TAT GCA TCA AAG GTC ACA TTT AAC GCT GGC ATT CAA GTC CCA TAT GCT CCA AAC 5307
 58 G T Y A S K V T F N A G I Q V P Y A P N 77

5308 ATG AGC CCA TGC GGG ATT TAT GGC CGT AAC GGT GAT GGT GCT ACT TTT GAT AAA GCA 5367
 78 I M S P C G I Y G G N D G A T F D K A 97

FIG. 3K

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5368 AAT ATC GAT ATT GTT TCA TGG TAT GGC GTC GAA TTT AAA TCG TCA TTT GTT TCA ACA GGC 5427
 98 N I D I V S W Y G V G F K S S F G S T G 117

 5428 CGA ACT GTT GTC ATT AAT ACA CGC AAT GGT GAT ATT AAC ACA AAA GGT GTC GTC TCG GCA 5487
 118 R T V V I N T R N G D I N T K G V V S A 137

 5488 GCT GGT CAA GTC AGT GGT GCG GCT CCT ATA GCA GCG AAT GAC CTC ACT AGA AAG 5547
 138 A G Q V R S G A A P I A A N D L T R K 157

 5548 GAC TAT GTT GAT GCA GCA ATA AAT ACT GTT ACT GCA AAT GCA AAC TCT AGG GTG CTA CGG 5607
 158 D Y V D G A I N T V T A N A N S R V L R 177

 5608 TCT GGT GAC ACC ATG ACA CGT AAT TTA ACA GCG CCA AAC TTT TTC TCC CAG AAT CCT GCA 5667
 178 S G D T M T G N L T A P N F F S Q N P A 197

 5668 TCT CAA CCC TCA CAC GTT CCA CGA TTT GAC CAA ATC GTC ATT AAG GAT TCT GTT CAA GAT 5727
 198 S Q P S H V P R F D Q I V I K D S V Q D 217

 5728 TTC GCC TAT TAT TAA GAGGACTT ATG GCT ACT TTA AAA CAA ATA CAA TTT AAA AGA AGC AAA 5789
 218 F G Y Y * M A T L K Q I Q F K R S K 13

 5790 ATC GCA GGA ACA CGT CCT CCT TCA GTC TTA GCC GAA CGT GAA TTG GCT ATA AAC TTA 5849
 14 I A G T R P A S V L A E G E L A I N L 33

FIG. 3L

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5850 AAA GAT AGA ACA ATT TTT ACT AAA GAT GAT TCA GGA AAT ATC GAT CTA GGT TTT GAT 5909
 34 K D R T I F T K D D S G N I I D L G F A 53

5910 AAA GGC CGG CAA GTT GAT GGC AAC GTT ACT ATT AAC GGA CTT TTG AGA TTA AAT GGC GAT 5969.
 54 K G G Q V D G N V T I N G L L R L N G D 73

5970 TAT CTA CAA ACA CGT CGA ATG ACT GIA AAC GGA CCC ATT GGT TCT ACT GAT GGC GTC ACT 6029
 74 Y V Q T G M T V N G P I G S T D G V T 93

6030 GGA AAA ATT TTC AGA TCT ACA CAG GGT TCA TTT TAT GCA AGA GCA ACA AAC GAT ACT TCA 6089
 94 G K I F R S T Q G S F Y A R A T N D T S 113

6090 AAT GCC CAT TTA TGG TTT GAA ATT GCC GAT GGC ACT GAA CGT GGC GTT ATA TAT GCT GGC 6149
 114 N A H L W F E N A D G T E R G V I Y A R 133

6150 CCT CAA ACT ACA ACT GAC GGT GAA ATA CGC CTT AGC GTT AGA CAA GGA ACA GGA AGC ACT 6209
 134 P Q T T D G E I R L R V R Q G T G S T 153

6210 GCC AAC AGT GAA TTC TAT TTC CGC TCT ATA AAAT GGA CGC GAA TTT CAG CCT AAC CGT ATT 6269
 154 A N S E F Y F R S I N G G E F Q A N R I 173

6270 TTA GCA TCA GAT TCG TTA GTA ACA AAA CGC ATT GCG GTT GAT ACC GTT ATT CAT GAT GGC 6329
 174 L A S D S L V T K R I A V D T V I H D A 193

FIG. 3M

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PCT/US99/13024

WO 00/77196

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 6330 | AAA | GCA | TTT | GGA | CAA | TAT | GAT | TCT | CAC | TCT | TTC | GTT | AAT | TAT | GTT | TAT | CCT | GGA | ACC | GCT | 6389 |
| 194 | K | A | F | G | Q | Y | D | S | H | S | L | V | N | Y | V | P | G | T | G | | 213 |
| 6390 | GAA | ACA | AAT | GGT | GTA | AAC | TAT | CTT | CGT | AAA | GTT | CGC | GCT | AAG | TCC | GGT | ACA | AAT | TAT | | 6449 |
| 214 | E | T | N | G | V | N | Y | L | R | K | V | R | A | K | S | C | T | I | Y | | 233 |
| 6450 | CAT | GAA | ATT | GTT | ACT | GCA | CAA | ACA | GGC | CTG | GCT | GAT | GAA | GTT | TCT | TGG | TGG | TCT | GGT | GAT | 6509 |
| 234 | H | E | I | V | T | A | Q | T | G | L | A | D | E | V | S | W | W | S | G | D | 253 |
| 6510 | ACA | CCA | GTA | TTT | AAA | CTA | TAC | GGT | ATT | CGT | GAC | GAT | GGC | AGA | ATG | ATT | AIC | CGT | AAT | AGC | 6569 |
| 254 | T | P | V | F | K | L | Y | G | I | R | D | D | G | R | M | I | I | R | N | S | 273 |
| 6570 | CTT | GCA | TTA | GCT | ACA | TTC | ACT | ACA | AAT | TTC | CCG | TCT | AGT | GAT | TAT | GGC | AAC | GTC | GGT | GTA | 6629 |
| 274 | L | A | L | G | T | F | T | N | F | P | S | S | D | Y | G | N | V | G | V | | 293 |
| 6630 | ATG | GCC | GAT | AAG | TAT | CTT | GTT | CTC | GGC | GAC | ACT | GTA | ACT | CCC | TTG | TCA | TAC | AAA | ACT | 6689 | |
| 294 | M | G | D | K | Y | L | V | L | G | D | T | V | T | G | L | S | Y | K | K | T | 313 |
| 6690 | GCT | GTA | TTT | GAT | CIA | GTT | GGC | GCT | TAT | TCT | TCT | ATT | ACT | CCT | GAC | AGT | TTC | | | 6749 | |
| 314 | G | V | F | D | L | V | G | G | G | Y | S | A | S | I | T | P | D | S | F | 333 | |
| 6750 | CGT | ACT | CGT | AAA | GCT | ATA | TAT | TTT | GGT | CGT | TCT | GAG | GAC | CAA | GGC | GCA | ACT | TGG | ATA | ATG | 6809 |
| 334 | R | S | T | R | K | G | I | F | G | R | S | E | D | Q | G | A | T | W | I | M | 353 |

FIG. 3N

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| | |
|--|------|
| 6810 CCT CGT ACA AAT GCT GCT CTC TTG TCT GTT CAA ACA CAA GCT GAT AAT AAC AAT GCT GGA | 6869 |
| 354 P G T N A A L L S V Q T Q A D N N N A G | 373 |
| 6870 GAC CGA CAA ACC CAT ATC GGG TAC AAT GCT GGG CGT AAA ATG AAC CAC TAT TTC CGT CGT | 6929 |
| 374 D C Q T H I G Y N A G G K M N H Y F R G | 393 |
| 6930 ACA GGT CAG AAT ATC AAT ACC CAA GGT ATG GAA ATT AAC CGG GGT ATT TTG AAA | 6989 |
| 394 T G Q M N I N T Q Q G M E I N P G I L K | 413 |
| 6990 TTG GTA ACT GGC TCT AAT GTA CAA TTT TAC GCT GAC GGA ACT ATT TCT TCC ATT CAA | 7049 |
| 414 L V T G S N N V Q F Y A D G T I S S I Q | 433 |
| 7050 CCT ATT AAA TTA GAT AAC GAG ATA TTT TTA ACT AAA TCT AAT AAT ACT GCG GGT CTT AAA | 7109 |
| 434 P I K L D N E I F L T K S N N T A G L K | 453 |
| 7110 TTT GCA GCT CCT AGC CAA GTT GAT GGC ACA AGG ACT ATC CAA TGG AAC GGT ACT CGC | 7169 |
| 454 F G A P S Q V D G T R T I Q W N G G T R | 473 |
| 7170 GAA CGA CAG AAT AAA AAC TAT GTG ATT ATT AAA GCA TGG CGT AAC TCA TTT AAT GCC ACT | 7229 |
| 474 E C Q N K N Y V I I K A W G N S F N A T | 493 |
| 7230 GGT GAT AGA TCT CGC GAA ACG GTT TTC CAA GTC TCA GAT AGT CAA GGA TAT TAT TTT TAT | 7289 |
| 494 G D R S R E T V F Q S D S Q G Y Y F Y | 513 |

FIG. 30

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| | | | | | | | | | | | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 77290 | GCT | CAT | CGT | AAA | GCT | CCA | ACC | GGC | GAC | GAA | ACT | ATT | GGA | CGT | ATT | GAA | GCT | CAA | TTT | GCT | 7349 |
| 514 | A | H | R | K | A | P | T | G | D | E | T | I | G | R | I | E | A | Q | F | A | 5333 |
| 77350 | GGC | GAT | GTT | TAT | GCT | AAA | GGT | ATT | CCC | AAC | GGA | AAT | TTT | AGA | GTT | CTT | GGG | TCA | AGC | 7409 | |
| 534 | G | D | V | Y | A | K | G | I | A | N | G | N | F | R | V | V | G | S | S | 553 | |
| 74110 | GCT | TTA | GGC | GGC | AAI | GTT | ACT | ATG | TCT | AC | GGT | TTC | TTT | GTC | CAA | GGT | GGT | TCT | TCT | ATT | 7469 |
| 554 | A | L | A | G | N | V | T | M | S | N | G | L | F | V | Q | G | G | S | S | I | 573 |
| 7470 | ACT | GGA | CAA | GTT | AAA | ATT | GGC | GGG | ACA | GCA | AAC | GCA | CTG | AGA | ATT | TGG | AAC | GCT | GAA | TAT | 7529 |
| 574 | T | G | Q | V | K | I | G | G | T | A | N | A | L | R | I | W | N | A | E | Y | 593 |
| 7530 | GGT | GCT | ATT | TTC | CGT | CGT | TCG | GAA | AGT | AGC | TTT | TAT | ATT | CCA | ACC | AAT | CAA | AAT | GAA | 7589 | |
| 594 | G | A | I | F | R | R | S | E | S | N | F | Y | I | I | P | T | N | Q | N | E | 613 |
| 7590 | GGA | GAA | AGT | GGA | GAC | ATT | CAC | AGC | TCT | TTG | AGA | CCT | GTG | AGA | ATA | GGG | TTA | AAC | GAT | GGC | 7649 |
| 614 | G | E | S | G | D | I | H | S | S | L | R | P | V | R | I | G | L | N | D | G | 633 |
| 7650 | ATG | GTT | GGG | TIA | CGA | AGA | GAT | TCT | TTT | ATA | GTA | CAA | AAI | ATT | GCT | TIA | ACT | ACG | ATA | 7709 | |
| 634 | M | V | G | L | G | R | D | S | F | I | V | D | Q | N | N | A | L | T | T | I | 653 |
| 7710 | AAC | AGT | AAC | TCT | CGC | ATT | AAT | GCC | AAAC | TTT | AGA | ATG | CAA | TTC | GGG | CAG | TCG | CCA | TAC | ATT | 7763 |
| 654 | N | S | N | S | R | I | N | A | N | F | R | M | Q | L | G | Q | S | A | Y | I | 673 |

FIG. 3P

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7770 GAT GCA GAA TGT ACT GAT GCT GTT CGC CCC GCG GGT GCA GGT TCA TTT GCT TCC CAG AAT 7829
 674 D A E C T D A V R P A G A G S F A S Q N 693

7830 AAT GAA GAC GTC CGT GCG CCG TTC TAT ATG AAT ATT GAT AGA ACT GAT GCT AGT GCA TAT 7889
 694 N E D V R A P F Y M N I D R T D A S A Y 713

7890 GTT CCT ATT TIC AAA CAA CGT TAT GTT CAA CGC AAT CGC TAT TCA TTA GGG ACT TTA 7949
 714 V P I L K Q R Y V Q G N G C Y S L G T L 733

7950 ATT AAT CGT AAT TTC CGA GTT CAT TAC CAT CGC GGC GGA GAT AAC GGT TCT ACA GGT 8009
 734 I N N G N F R V H Y H G G D N G S T G 753

8010 CCA CAG ACT GCT GAT TTT GGA TGG GAA TTT ATT AAA AAC GGT GAT TTT ATT TCA CCT CGC 8069
 754 P Q T A D F G W E F I K N G D F I S P R 773

8070 GAT TTA ATA GCA GGC AAA GTC AGA TTT GAT AGA ACT GGT AAT ATC ACT CGT TCT CGT 8129
 774 D L I A G K V R F D R T G N I T G G S G 793

8130 AAT TTT GCT AAC TTA AAC AGT ACA ATT GAA TCA CTT AAA ACT GAT ATG TCG AGT TAC 8189
 794 N F A N L N S T I E S L K T D I M S S Y 813

8190 CCA ATT CCT CGT CCT TGG CGG ACT GAT TCA GTT CCT GCT GCA TTT GCT TTG ATG 8249
 814 P I G A P I P W P S D S V P A G F A L M 833

FIG. 3Q

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| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|------|-----|------|------|------|------|
| 8250 | GAA | GGT | CAG | ACC | TTT | GAT | AAG | TCC | GCA | TAT | CCA | AAG | TTA | GCT | GCT | CAT | TAT | CCT | AGC | GGT | |
| 834 | E | G | Q | T | F | D | K | S | A | Y | P | K | L | A | V | A | Y | P | S | G | 8309 |
| 854 | V | I | P | D | M | R | G | Q | T | I | K | G | K | P | S | G | R | A | V | L | 853 |
| 8310 | GTT | ATT | CCA | GAT | ATG | GGC | GGG | CAA | ACT | ATC | AAG | GCT | AAA | CCA | AGT | GCT | CGT | GCT | GTT | TTC | 8369 |
| 874 | S | A | E | A | D | G | V | K | A | H | S | H | S | A | S | A | S | S | T | D | 873 |
| 8370 | AGC | GCT | GAG | GCA | GAT | GCT | GTT | AAG | GCT | CAT | AGC | CAT | AGT | GCA | TCG | GCT | TCA | AGT | ACT | GAC | 8429 |
| 894 | L | G | T | K | T | S | S | F | D | Y | G | T | K | G | T | N | S | T | G | 893 | |
| 8430 | TTA | GGT | ACT | AAA | ACC | ACA | TCA | AGC | TTT | GAC | TAT | GCT | ACC | AAC | CGA | ACT | AAC | AGT | ACG | GCT | 8489 |
| 914 | G | H | T | H | S | G | S | T | S | T | N | G | E | H | S | H | Y | I | 913 | | |
| 8490 | GGA | CAC | ACT | CAC | TCT | GGT | ACT | GGT | TCT | ACT | AGC | ACA | AAI | GCT | GAC | CAC | TAC | TAC | ATC | 8549 | |
| 934 | E | A | W | N | G | T | G | V | G | G | N | K | M | S | S | Y | A | I | S | Y | 933 |
| 8550 | GAG | CCA | TGG | AAT | GGT | ACT | GGT | GTA | GGT | AAT | AAG | ATG | TCA | TAT | GCC | ATA | TCA | TAC | 8609 | | |
| 954 | R | A | G | S | N | T | N | A | A | G | N | H | S | H | T | F | S | F | G | 973 | |
| 8610 | AGC | CCC | GCT | GGC | AGT | AAC | ACT | AAT | GCA | GCA | GGG | AAC | CAC | AGT | CAC | ACT | TTC | TCT | TTT | GGC | 8669 |
| 974 | T | S | S | A | G | D | H | S | H | S | V | G | I | G | A | H | T | H | T | V | 993 |
| 8670 | ACT | AGC | GCT | GGC | GAC | CAT | TCC | CAC | TCT | GTA | GGT | ATT | GCT | CAT | ACC | CAC | ACG | GTA | 8729 | | |
| 994 | A | I | G | S | H | G | H | T | I | V | N | S | T | G | N | T | E | N | T | 1013 | |
| 8730 | GCA | ATT | GGA | TCA | CAT | GGT | CAT | ACT | ATC | ACT | GTA | AAT | AGT | ACA | GAA | AAC | ACG | 8789 | | | |
| 1014 | V | K | N | I | A | F | N | Y | I | V | R | L | A | * | | | | | | 1027 | |
| 8790 | GTT | AAA | AAC | ATT | GCT | TTT | AAC | TAT | ATC | GTT | CGT | TTA | GCA | TAA | GGAGAGGGGCTTCGGCCCTCTAA | 8855 | | | | | |

FIG. 3R